

Notice of Allowability

Application No.

10/705,563

Examiner

DANIEL G. MARIAM

Applicant(s)

SILVER ET AL.

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an amendment filed 11/11/03, and a telephone interview dated 8/4/05.
2. ☒ The allowed claim(s) is/are 122-176 (now renumbered as 1-55).
3. ☒ The drawings filed on 11/11/03 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 11/11/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 08/04/2005
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DANIEL MIRIAM
PRIMARY EXAMINER

EXAMINER'S AMENDMENT AND REASONS FOR ALLOWANCE

✓ Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Russel Weinzimmer (Reg. No. 36,717) on August 4, 2005.

The application has been amended as follows:

Amend the amended specification (November 11, 2003) as follows:

In page 2 of the specification, under the heading "Cross Reference to Related Applications", replace the first paragraph with the following paragraph:

This is a continuation of U.S. Patent Application Serial Number 09/746,147 filed 12/22/2000 which is now U.S. Patent Number 6,658,145 issued on December 2, 2003, which is a continuation of U.S. Patent Application Serial Number 09/001,869, filed 12/31/1997 (now abandoned), which is a continuation-in-part to U.S. Patent Application Serial Number 08/979,588, filed 11/26/1997 (now abandoned).

Amend the claims as follows:

Cancel the originally filed claim 121. Please note, while applicants have canceled claims 1-120 of the originally filed claims by the amendment (See page 3 of the preliminary amendment filed November 11, 2003), and have submitted newly added claims 121-175 (See pages 3-11 of the preliminary amendment), the originally filed claims in fact contain claims 1-121.

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Renumber the newly added claims ~~121-175~~ as 122-176.

Reasons for Allowance

2. Claims 122-176 are allowed. The claims will be renumbered as 1-55.
3. The following is an examiner's statement of reasons for allowance: the instant invention uses a geometric pattern matching for refining an estimate of a true pose of an object in a run-time image. Upon acquisition of a training image, the instant invention generates a low and high-resolution model pattern respectively, that includes a geometric description of the expected shape of the object at a low and high spatial resolution. Thereafter, the instant invention receives a starting pose, which represents an initial estimate of the true pose of the object. Using the low resolution model pattern, and the starting pose, the instant invention analyzes a run-time image so as to provide a low resolution pose, which is a more refined pose than the starting pose, and provides a high resolution pose that is a more refined estimate of the true pose than the low resolution pose by using the high resolution model pattern, and the low resolution pose. These features in combination with all of the other elements of the claims are not disclosed or fairly suggested by any of the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


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Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL G. MARIAM whose telephone number is 571-272-7394. The examiner can normally be reached on M-F (7:00-4:30) FIRST FRIDAY OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BHAVESH M. MEHTA can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DANIEL G MARIAM
Primary Examiner
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August 4, 2005